

WHAT IS CLAIMED IS:

- 1     1.     A system for managing voice communications comprising:  
2                 a first signal path from a first interface that is connectable to a circuit  
3     switching network;  
4                 a second signal path from a second interface that is connectable to a  
5     computing device in signal communication with a packet switching network;  
6                 a third signal path from a third interface that is connectable to a  
7     telephone; and  
8                 a switching unit configured to selectively interconnect said first,  
9     second and third signal paths such that signals can be routed between said circuit  
10    switching network, said packet switching network and said telephone, said switching  
11    unit being further configured to selectively disconnect one of said first, second and  
12    third signal paths to selectively route said signals between said circuit switching  
13    network, said packet switching network and said telephone.
- 1     2.     The system of claim 1 further comprising a current source and wherein said  
2     switching unit includes a first switching mechanism positioned along said first signal  
3     path to selectively connect one of said first interface and said current source to said  
4     second and third signal paths.
- 1     3.     The system of claim 2 wherein said switching unit further includes a second  
2     switching mechanism positioned along said second signal path to selectively  
3     disconnect said third interface from said first and second signal paths.
- 1     4.     The system of claim 3 wherein said second switching mechanism is part of a  
2     data access arrangement module.

1     5.     The system of claim 2 wherein said first switching mechanism includes a  
2     relay to selectively connect one of said first interface and said current source to said  
3     second and third signal paths.

1     6.     The system of claim 2 further comprising an impedance matching device  
2     connected to said current source, said impedance matching device being configured to  
3     provide a predefined impedance.

1     7.     The system of claim 2 further comprising a ring signal generator and wherein  
2     said switching unit further includes a second switching mechanism along said first  
3     signal path such that said first switching mechanism is positioned between said first  
4     interface and said second switching mechanism, said second switching mechanism  
5     being configured to selectively connect one of said first switching mechanism and  
6     said ring signal generator to said to said second and third signal paths.

1     8.     The system of claim 7 further comprising a controller connected to said  
2     second switching mechanism, said controller being configured to control said second  
3     switching mechanism such that signals from said ring signal generator through said  
4     second switching mechanism is modulated by said second switching mechanism.

1     9.     The system of claim 1 further comprising a dual tone multi-frequency receiver  
2     connected to said second signal path between said second interface and said switching  
3     unit to receive dual tone multi-frequency tones from one of said circuit switching  
4     network and said telephone.

1     10.    The system of claim 9 further comprising a dual tone multi-frequency  
2     generator connected to said second signal path between said computer interface and  
3     said switching unit to transmit dual tone multi-frequency tones to said first signal  
4     path.

1 11. The system of claim 1 further comprising a holding circuit connected to said  
2 first signal path between said first interface and said switching unit, said holding  
3 circuit being configured to hold a communications link through said circuit switching  
4 network active when said first signal path is disconnected from said telephone.

1 12. The system of claim 1 wherein each of said first and third interfaces includes a  
2 RJ11 port.

1 13. The system of claim 1 wherein said second interface includes an element  
2 selected from a group consisting of an RS232 port, a universal serial bus port, a  
3 wireless transceiver and an internal bus of said computing device.

1 14. A method for managing voice communications comprising:  
2 selectively routing signals between a telephone and a circuit switching  
3 network through first and second signal path at a premises of a telephone line  
4 subscriber;  
5 selective routing signals between said telephone and a computing  
6 device in signal communication with a packet switching network through said second  
7 signal path and a third signal path at said premises; and  
8 interconnecting said first, second and third signal paths at said  
9 premises to route signals between said telephone, said circuit switching network and  
10 said packet switching network.

1 15. The method of claim 14 wherein said selectively routing of said signals  
2 between said telephone and said circuit switching network includes setting a first  
3 switching mechanism positioned along said first signal path to a first state to connect  
4 said circuit switching network to said telephone, said first switching mechanism  
5 having at least two state settings to selectively connect one of said circuit switching  
6 network and a current source to said telephone.

1     16.     The method of claim 15 wherein said selectively routing of said signals  
2     between said telephone and said computing device includes providing predefined  
3     impedance at a device connected to said telephone, said circuit switching network and  
4     said computing device when said current source is connected to said telephone.

1     17.     The method of claim 14 wherein said selectively routing of said signals  
2     between said telephone and said computing device includes closing a second  
3     switching mechanism in a data access arrangement module positioned along said  
4     third signal path to connect said computing device to said telephone.

1     18.     The method of claim 14 further comprising generating a ring signal at a  
2     device connected to said telephone, said circuit switching network and said  
3     computing device to ring said telephone in response to a received request to establish  
4     a telephone call through said packet switching network.

1     19.     The method of claim 14 further comprising generating a ring signal at a  
2     device connected to said telephone, said circuit switching network and said  
3     computing device to ring said telephone in response to a received request to establish  
4     a telephone call through said packet switching network.

1     20.     The method of claim 19 further comprising modulating said ring signal using  
2     a first switching mechanism positioned along said first signal path to control a ringing  
3     pattern of said telephone.

1     21.     The method of claim 14 further comprising decoding dual tone multi-  
2     frequency tones from one of said circuit switching network and said telephone at a  
3     device connected to said telephone, said circuit switching network and said  
4     computing device.

1     22.     The method of claim 14 further comprising generating dual tone multi-  
2     frequency tones at a device connected to said telephone, said circuit switching  
3     network and said computing device to transmit said dual tone multi-frequency tones  
4     to said circuit switching network to establish a telephone call through said circuit  
5     switching network.

1     23.     The method of claim 14 wherein said selectively routing of said signals  
2     between said telephone and said computing device includes holding a  
3     communications link through said circuit switching network active while said signals  
4     are routed between said telephone and said computing device.

1     24.     A system for managing voice communications comprising:  
2                 a first telephone jack connectable to the public switching telephone  
3     network;  
4                 a computer interface connectable to a computing device having a  
5     connection to the Internet;  
6                 a second telephone jack connectable to a telephone;  
7                 a switching unit configured to selectively interconnect said first and  
8     second telephone jacks and said interface such that signals can be routed between said  
9     circuit switching network, said packet switching network and said telephone, said  
10    switching unit being further configured to selectively disconnect one of said first  
11    telephone jack, said computer interface and said second telephone jack to selectively  
12    route said signal between said public switching telephone network, said Internet and  
13    said telephone.

1     25.     The system of claim 24 further comprising:  
2                     a first signal path from said first telephone jack to an interconnecting  
3     node;  
4                     a second signal path from said computer interface to said  
5     interconnecting node; and  
6                     a third signal path from said second telephone jack to said  
7     interconnecting node.

1     26.     The system of claim 25 further comprising a current source and wherein said  
2     switching unit includes a first switching mechanism positioned along said first signal  
3     path to selectively connect one of said first telephone jack and said current source to  
4     said second telephone jack and said computer interface.

1     27.     The system of claim 26 wherein switching unit further includes a second  
2     switching mechanism positioned along said second signal path to selectively  
3     disconnect said computer interface from said first and second telephone jacks

1     28.     The system of claim 27 wherein said second switching mechanism is part of a  
2     data access arrangement module.

1     29.     The system of claim 26 wherein said first switching mechanism includes a  
2     relay to selectively connect one of said first telephone jack and said power supply to  
3     said second and third signal paths.

1     30.     The system of claim 26 further comprising an impedance matching device  
2     connected to said current source, said impedance matching device being configured to  
3     provide a predefined impedance.

1 31. The system of claim 26 further comprising a ring signal generator and wherein  
2 said switching unit further includes a second switching mechanism along said first  
3 signal path such that said first switching mechanism is positioned between said first  
4 telephone jack and said second switching mechanism, said second switching  
5 mechanism being configured to selectively connect one of said first switching  
6 mechanism and said ring signal generator to said second and third signal paths.

1 32. The system of claim 31 further comprising a controller connected to said  
2 second switching mechanism, said controller being configured to control said second  
3 switching mechanism such that signals from said ring signal generator through said  
4 second switching mechanism is modulated by said second switching mechanism.

1 33. The system of claim 26 further comprising a dual tone multi-frequency  
2 receiver connected to said second signal path between said computer interface and  
3 said switching device to receive dual tone multi-frequency tones from one of said  
4 circuit switching network and said telephone.

1 34. The system of claim 33 further comprising a dual tone multi-frequency  
2 generator connected to said second signal path between said computer interface and  
3 said switching device to transmit dual tone multi-frequency tones to said first signal  
4 path.

1 35. The routing device of claim 26 further comprising a holding circuit connected  
2 to said first signal path between said first telephone jack and said switching unit, said  
3 holding circuit being configured to hold a communications link through said circuit  
4 switching network active when said first signal path is disconnected from said  
5 telephone.